What is claimed is:

1. A cathode-ray tube comprising an evacuated envelope having therein an electron gun for generating at least one electron beam, a faceplate panel having a luminescent screen with phosphor elements on an interior surface thereof, and a focus mask, wherein the focus mask includes a plurality of spaced-apart first conductive strands having an insulating material thereon, and a plurality of spaced-apart second conductive wires oriented substantially perpendicular to the plurality of spaced-apart first conductive strands, the plurality of spaced-apart second conductive wires being bonded to the insulating material, wherein the insulating material comprises a low porosity lead-zinc-borosilicate glass.

2. The cathode-ray tube of claim 1 wherein the low porosity lead-zinc-borosilicate glass is formed using a lead-zinc-borosilicate glass powder having a median particle size less than about 1 μm.

3. The cathode-ray tube of claim 1 wherein the low porosity lead-zinc-borosilicate glass includes one or more transition metal oxides.

4. The cathode-ray tube of claim 3 wherein the one or more transition metal oxides are selected from the group consisting of iron oxide (Fe_2O_3 and Fe_3O_4), titanium oxide (TiO_2), zinc oxide (ZnO), molybdenum oxide (MoO_3), chromium oxide (Cr_2O_3), tin oxide (SnO_2), nickel oxide (NiO), and combinations thereof.

5. The cathode-ray tube of claim 3 wherein the one or more transition metal oxides in the low porosity lead-zinc-borosilicate glass have a weight % in a range of about 2 % by weight to about 12 % by weight.

6. The cathode-ray tube of claim 3 wherein the low porosity lead-zinc-borosilicate glass is SCC-11, or a mixture of lead, zinc, boron, and silicon oxides melted together to form an SCC-11-like glass.

7. The cathode-ray tube of claim 3 wherein the one or more transition metal oxides are added to the lead-zinc-borosilicate glass either by premelting or by mixing them with a lead-zinc-borosilicate powder.

8. A method of manufacturing a cathode-ray tube comprising an evacuated envelope having therein an electron gun for generating an electron beam, a faceplate panel having a luminescent screen with phosphor elements on an interior surface thereof, and a focus mask, wherein the focus mask includes a plurality of spaced-apart first conductive strands, and a plurality of spaced-apart second conductive wires oriented substantially perpendicular to the plurality of spaced-apart first conductive strands, comprising the steps of:

applying an insulating material to the plurality of spaced-apart first conductive strands, wherein the insulating material is a low porosity lead-zinc-borosilicate glass; and

bonding the plurality of spaced-apart second conductive wires to the insulating material.

9. The method of claim 8 wherein the low porosity lead-zinc-borosilicate glass is formed using a lead-zinc-borosilicate glass powder having a median particle size less than about 1 μm.

10. The method of claim 8 wherein the low porosity lead-zinc-borosilicate glass further comprises one or more transition metal oxides.

11. The method of claim 10 wherein the one or more transition metal oxides are selected from the group consisting of iron oxide (Fe_2O_3 and Fe_3O_4), titanium oxide (TiO_2), zinc oxide (ZnO), molybdenum oxide (MoO_3), chromium oxide (Cr_2O_3), tin oxide (SnO_2), nickel oxide (NiO), and combinations thereof.

12. The method of claim 10 wherein the one or more transition metal oxides in the low porosity lead-zinc-borosilicate glass have a weight % in a range of about 2 % by weight to about 12 % by weight.

13. The method of claim 9 wherein the low porosity lead-zinc-borosilicate glass is SCC-11, or a mixture of lead, zinc, boron, and silicon oxides melted together to form an SCC-11-like glass.

14. The method of claim 10 wherein the one or more transition metal oxides are added to the lead-zinc-borosilicate glass either by premelting or by mixing them with a lead-zinc-borosilicate powder.